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# Making A Difference

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## Accomplishments of the 1996 Natural Resource Conservation Education Program

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## A Parable for Our Time

A Midwesterner was vacationing on the New England coast. One morning, very early, she was walking along the beach. The sun was still below the horizon, the rain had ended, the sea was calm, and a rainbow bridged the blue Atlantic with the green shoreline. While enjoying the beauty about her, she glanced down the beach and saw the lone figure of a young man silhouetted against the sea. He skipped and frolicked as if performing a ritual dance to celebrate the dawn. Fascinated, she moved closer. As she approached, she realized the young man was not dancing—he was, with graceful and joyous movement, picking up objects and tossing them into the sea. Soon she realized the objects were starfish.

“Why are you throwing starfish into the sea?”

“The tide is going out and if they are still here when the sun rises they will die.” And without breaking his rhythm he continued tossing them out to sea.

“That’s ridiculous! There are thousands of miles of beach and millions of starfish. You can’t really believe that what you are doing could possibly make a difference!”

He smiled, bent over and picked up another starfish, paused thoughtfully, and remarked as he tossed it into the waves, “It makes a difference to this one.”





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# Natural Resource Conservation Education (NRCE) Program Overview

## An Introduction to the Forest Service Mission and the NRCE Program

NRCE makes a difference. When one person is reached—a child, an adult, a teacher, a neighbor—it is one more person who understands stewardship of the land. Each individual reached touches others, sharing the vision of collaborative stewardship and the Forest Service mission of “Caring for the land and serving people.” To achieve this mission, the agency offers direction and leadership with a diverse array of conservation education programs. In 1996, the program reviewed in these pages reached more than 5-1/2 million people of all ages, including 27,405 educators and 1,079,170 students, across the Nation. For an investment of only \$0.95 per student and educator, the Forest Service’s conservation education programs continue to reap dividends **beyond** monetary value.

Conservation education is a lifelong learning process that promotes the understanding of natural resources and ecosystems—their interrelationships, conservation, use, management, and value to society. Forest Service NRCE programs and activities support and encourage conservation of our forest and rangeland natural resources by advocating a conservation ethic, encouraging active public participation in conservation activities, and building a citizenry that understands and cares about natural resources and land stewardship.

NRCE equips people to make their own informed decisions concerning natural resources. It encourages people to act in a responsible manner towards the use of resources and towards one another.

## The Roots of Forest Service Conservation Education

NRCE was developed in response to the recommendations made by the National Association of State Foresters. A Natural Resource Education Task Force was established in May 1990. It was composed of representatives from the Forest Service’s Research, State and Private Forestry, and National Forest System deputy areas, and the State foresters. They were directed to make recommendations on new approaches to strengthen all aspects of the natural resource education program. From these beginnings, the conservation education program has grown to involve a diversity of partners and embraces all States across the country.

### Our Audience

The Forest Service conservation education program serves all Americans: young and old, urban and rural, those who use national forest lands and those who do not. The goal of the NRCE program is to provide educational opportunities to all citizens at whatever level they choose to participate.



# Goals & Objectives of Forest Service Conservation Education

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- Increase awareness of, knowledge about, and appreciation for natural resources and ecosystems.
- Help develop the critical thinking skills needed to recognize the complexity of resource issues and make realistic choices.
- Encourage individual responsibility for conserving natural resources and using them wisely.

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## Guiding Principles

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*We use factual information about natural resources as the basis for structured educational experiences.*

*We recognize and encourage successful, innovative conservation education efforts.*

*We complement and enhance programs through partnerships.*

*We use existing delivery systems such as schools and the media.*

*We create awareness and understanding of career opportunities in natural resource sciences and management.*

*We acknowledge cultural diversity and regional differences in perspectives regarding natural resource management.*

*We use forests and grasslands as a living classroom.*

*We address local needs and concerns.*



# Accomplishments Through Partnerships

The Forest Service conservation education program is accomplished through a diversity of partnerships. From nationwide collaboration to local partnerships, these sponsors leveraged Federal funds by 100 percent. With a Federal investment of just under \$1,100,000, a total of over \$2,500,000 was spent on education.

## National NRCE Partners include:

### **Government Partners**

- State forestry agencies in all 50 States , the District of Columbia, and the territories
- Environmental Protection Agency
- USDA Natural Resources Conservation Service
- USDI Bureau of Land Management
- USDI National Park Service
- USDI Fish & Wildlife Service
- USDA Cooperative State Research, Education, and Extension Service

### **Non-Government Organization Partners**

- National Forest Foundation
- American Forest Foundation/Project Learning Tree
- National Fish & Wildlife Foundation
- National Environmental Education and Training Foundation
- National Science Teachers Association
- North American Alliance for Environmental Education
- Girl Scouts of the United States of America
- Boy Scouts of America
- Council for Environmental Education
- Student Conservation Association
- National Association of Conservation Districts
- Kids for a Clean Environment
- National 4-H Council
- World Forestry Center

- American Forests
- Project WILD
- Future Farmers of America
- National Envirothon

During 1996, at least 198 projects throughout the United States were supported by the conservation education program. Over **5 million citizens** were touched by NRCE programs, over **27,000 teachers** attended workshops and teacher training, and more than **1 million school children** attended conservation education programs. This report highlights some of the outstanding examples of conservation education programs that were accomplished in 1996.

### Where Do We Go in the Future?

What is the future of conservation education as our Nation becomes increasingly urban, and MTV, CNN, and the World Wide Web become traditional communication media? We believe that conservation education will become even more important as fewer citizens have direct, personal ties with the land. The Forest Service, both directly and through partnerships and cooperative relationships with private and public organizations, is working hard to adapt its conservation education programs to meet the needs of the 21st century. It is striving to make all education efforts work well together. To redeem our responsibilities as conservation leaders for today, we must help to build the conservation leaders of tomorrow.

## Highlighted Nationwide Conservation Education Efforts

### Project Learning Tree

Project Learning Tree (PLT) is a nationwide teacher training program and conservation education curriculum that helps students from preschool through high school develop environmental awareness and the ability to make informed decisions about natural resources and their management. Currently, more than 400,000 teachers have participated in workshops nationwide. Teachers are trained by natural resource professionals from State forestry agencies and the Forest Service. The Forest Service and State foresters serve on the PLT Working Committee.

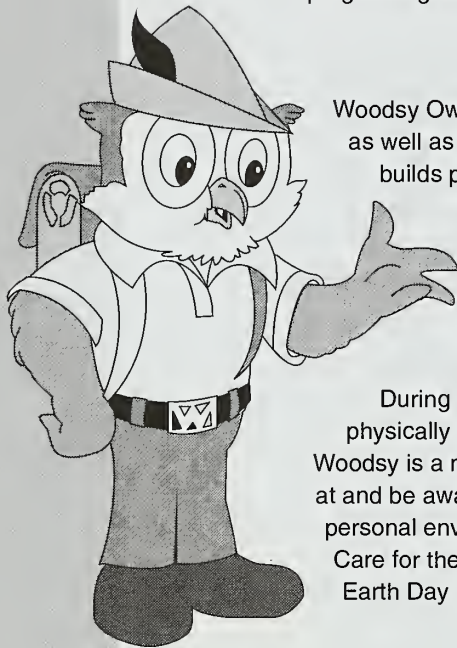
PLT was named the Outstanding Environmental Education Program in the Nation in 1996, by the North American Association for Environmental Education. This special honor recognized the exceptional partnership between forest industry educators and resource professionals to provide high-quality, balanced, and effective environmental programs to children throughout the country.

## Partners in Resource Education & "Ecosystem Matters" Tool Kit

Five Federal agencies from the Departments of Agriculture and the Interior have joined with the National Environmental Education and Training Foundation to form the Partners in Resource Education. These agencies are responsible for managing most of the Federal lands in the United States and providing expertise to private land managers. All of these agencies are challenged to manage resources to benefit present and future generations, and they are often asked to manage conflicting uses. Members of the Partners in Resource Education include the Bureau of Land Management, National Park Service, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Forest Service, and the National Environmental Education and Training Foundation.

In 1996, the agencies collaborated to develop the "Ecosystem Matters" Tool Kit—an innovative education package about ecosystems and ecosystem management. The curriculum and the associated materials introduce the goal of ecosystem-based resource management and provide the tools and training teachers need to bring this information alive to students. Posters, videos, activity guides, comic books, and even a CD-ROM support the program's goal. The kit is being distributed through the National Science Teachers Association.

## Woodsy Owl Program



Woodsy Owl is the Forest Service's symbol to improve our environment, in our urban and rural communities, as well as on our National Forest System lands. Through the character of Woodsy Owl, the Forest Service builds public knowledge about our environment and its proper use. The program, while designed to appeal to a broad audience, is targeted at children in kindergarten through third-grade. The audience reached by the program is large and nationwide in scope. A 1990 awareness survey indicated about 70 percent of adult heads of household had heard of Woodsy Owl. This large recognition factor makes Woodsy a valuable asset in efforts to reduce pollution and improve and maintain environmental quality.

During 1996, a national effort was undertaken to "revitalize" Woodsy. The new Woodsy Owl is stronger, physically fit, more "outdoorsy"—well suited to represent the Forest Service now and into the future. The new Woodsy is a mentor to young children. He flies through forests and other environments, guiding children to look at and be aware of the world around them, and showing them what actions they can take to treat their own personal environment with care. Woodsy continues to "give a hoot," but he spreads the message "Lend a hand, Care for the land." The new Woodsy Owl, accompanied by new activity guides, made his public debut on Earth Day 1997.

## Boy Scouts of America National Jamboree

Every 4 years the Boy Scouts of America hold a National Jamboree attended by 30,000 scouts and 5,000 leaders. The jamboree invokes a spirit of friendship and understanding through activities and adventures. The Forest Service, with other partnership organizations, develops an interactive exhibit for each jamboree as part of the "Conservation Trail."



## National Envirothon

For high school teachers, bringing facts to life in a way that holds students' interests is a formidable challenge. However, when it comes to natural resource and environmental issues, an exciting problem-solving competition, the Envirothon, meets that challenge. The Envirothon tests high school students' knowledge of forestry, soils, aquatics, wildlife, and current issues such as acid rain and land use. Five-person teams are tested on their knowledge and skills in each area as they rotate through outdoor testing stations. The final component of the competition requires teams to develop a plan for dealing with a specific environmental issue. Teams compete in this manner at the local and State levels, and winners advance to a National Envirothon held each summer in a different State.

The Forest Service and the National Association of Conservation Districts have provided assistance to the Envirothon since its beginnings.

## EPA Partnership

EPA is designated as the lead Federal agency for environmental education and reaches out to the Forest Service and other agencies to redeem their role under an interagency agreement. EPA supported Branching Out to the Youth of America, the National Envirothon, and the Children's Forest.

Branching Out to the Youth of America hires diverse college students from around the country to work as environmental education interns for the Forest Service. Three teams of four interns each are located in Radnor, PA; Asheville, NC; and Milwaukee, WI. Several thousand young people, ages 5-18, are reached each summer.

## National Envirothon Outreach Project

Encouraging urban and minority student participation is the goal of a National Envirothon outreach project. At a workshop in Chicago, IL, educators will learn how the Envirothon program can benefit urban students, how the Envirothon competitions are structured, and how to make State and local contacts. Throughout the workshop, forests will be a major focus with discussions on many urban forestry topics.

## Children's Forest - San Bernardino National Forest

Originally designated as the Children's Forest decades ago when replanted after a devastating fire, the Children's Forest has evolved into a living laboratory for children and youth to learn about the environment and how land management decisions are made. In 1996, the Children's Forest took its first steps into cyberspace as youth are being given the opportunity to collect GIS data, which they will then manipulate, simulating land management decisions.

## National Science Teachers Association

The Chief of the Forest Service signed an agreement with the National Science Teachers Association formalizing our cooperation with the association of 40,000 teachers. Goals of the agreement include disseminating current research results to high school teachers for inclusion in their lessons.



# Developing EE Media and Curriculum



Tree Trunks, wilderness and land ethic boxes, and recycling art carts are innovative educational kits designed to provide new learning experiences for children. Supported by the NRCE program, development of new environmental education (EE) curricula and supporting media has effectively met the needs of diverse regions of the country. These projects are often used throughout regional areas and are vital contributions to the national education effort.

## PROJECT

### **Keeping Track of the Wild Ones**

*(Northern Region - Idaho Panhandle National Forest)*

Emphasizing wildlife adaptations, habitat needs, and awareness of the natural environment, this interdisciplinary program reaches more than 3,000 children and 90 educators each year. Interpretive displays and three new educational kits covering mammal adaptations, reptiles, and insects were developed and put into use in 1996.

### **Flathead Family Forestry Expo Guide**

*(Northern Region - Flathead National Forest)*

The Family Forestry Expo provides fifth-grade students with a day at the Trumbull Creek Forestry Site, interacting with resource professionals at over eight learning stations. They use a workbook as a tool to prepare students for their expo site visit. In 1996, over 1,500 students participated in the event.

### **Scat, Tracks, & Skulls Box**

*(Southwestern Region - Coronado National Forest)*

Stocked with tracks, scats, and skulls, this educational kit teaches ecosystem relationships to both children and adults. The box has been popular with local schools, career fairs, and outdoor learning centers.

### **Wilderness & Land Ethic Boxes**

*(Southwestern Region - Coconino & Kaibab National Forests;  
Alaska Region - Tongass National Forest)*

National forests throughout the Nation have recognized the need to provide education about land ethics and the value of wildlands. In use for several years, these effective trunks have been carrying the public land messages throughout the Western States. Teacher training workshops ensure that the trunks are effectively used.

In Alaska, the Wilderness Box concept has been modified to reflect the unique needs of Admiralty National Monument Kootznoowoo Wilderness, home to the world's highest concentration of brown bears. With furs, and replicas of tracks and scat, the box now serves the dual purpose of educating students about bears and bear safety.

### **CAWS Basin Video**

*(Southern Region - Francis Marion National Forest)*

A coalition of partners joined forces to produce an educational video about the value of the Cooper, Ashley, Wando, and Stono River Basin Ecosystem in South Carolina. It is distributed through special presentations, and visits to schools and sites.

### **Nature Rhymes Booklet**

*(Northeastern Area - Vermont Department of Forests, Parks, and Recreation)*

Using the style, themes, and elements common in children's nursery rhymes and finger play, verses were composed and illustrated for a booklet designed for use by daycare centers, preschools, and early learning programs in elementary schools. Over 4,000 children have been reached by this innovative project.

### **Illinois Tree Trunk**

*(Northeastern Area - Illinois Division of Forest Resources)*

These educational trunks provide Illinois teachers with resources to instruct students about trees, the forest, forest careers, and the forest industry. In the last year, 50 Tree Trunks have been produced and distributed throughout the State.

### **Trees for Kids & Trees for Teens**

*(Northeastern Area - Iowa Department of Natural Resources)*

These cooperative programs comprise Iowa's 7-year-old tree education and planting program for elementary and secondary schools across the State. The goals of the program are to educate students about the values and benefits of trees, to make young adults aware of forestry opportunities, and to encourage students to plant landscape-sized (3 to seven feet) trees at their public areas to celebrate Earth Week. In 1996, over 4,000 teacher packets were distributed, 340,000 students were reached, and 65,000 trees were planted.

### **Tongass Journal Radio Program**

*(Alaska Region - Tongass National Forest)*

In 1996, 45 3-minute radio spots were broadcast over satellite to public radio stations throughout southeast Alaska. These radio spots educate Alaskans about the southeast environment and have covered mountain goats, earthquakes, mosquitoes, rockfish, and wildflowers.

### **PNW Ecosystem Drawings**

*(Pacific Northwest Research Station)*

A set of six ecosystem illustrations was created by a local artist. Each illustration depicts a different ecosystem of the Pacific Northwest. The duplicated illustrations have been distributed to all research stations and are an excellent tool for discussions. The drawings can also be used as coloring sheets for students.

### **Madison Children's Museum**

#### **Recycling Art Cart**

*(Forest Products Laboratory)*

*Through an innovative partnership, museum and lab staff developed a series of activities that introduce young children to the recycling of wood and paper products. The materials for the learning activities are packaged in a cart that staff use throughout the museum.*

### **Other Projects**

"Importance of Wilderness" Slide Show  
(Southwestern Region)

Tool Kits for Teachers (Southwestern Region)

Gila Education Trunk (Southwestern Region)

Sewee Visitor Center Education Guide  
(Southern Region)

Educational Series on Maine Interactive TV  
(Northeastern Area)

Planet Patrol Advertising, TV Spots – Iowa  
(Northeastern Area)

Southeast Alaska Visitor Center Activity Guides  
(Alaska Region)

## **STARRED ATTRACTION**

### **Central Hardwoods**

#### **Virtual Forest CD-ROM**

*(Northeastern Area)*

A number of Midwest partners are joining forces to bring environmental education into the 21st century. Staff from the Indiana Division of Forestry and Indiana University — Purdue University, are developing a virtual tour of the central hardwood forest and its management.

Once developed, the software will be available to all Project Learning Tree (PLT) facilitators, Indiana regional teacher centers, and libraries. The finished product will be used by educators statewide, as well as throughout the central hardwoods States.

Over 18 partners have worked on this project and NRCE funds have been matched 4 to 1.

### **Investigating Your Environment (IYE)**

*(Pacific Northwest Region)*

This middle school curriculum was developed by the USDA Forest Service and is continually made available to teachers throughout the country.



# Community Festivals & Events



Communities throughout the United States have organized festivals to celebrate the unique natural and cultural resources of their area. These fun and educational festivals and special events range from shorebird celebrations to statewide Arbor Day poster contests. Integrating arts, the humanities, and hands-on learning experiences, these events foster an awareness and appreciation of each community's special features.

## PROJECT

### **Flagstaff Festival of Science**

*(Southwestern Region - Coconino National Forest)*

The Festival of Science is an annual event in which the scientific community, educational organizations, businesses, and individuals promote the value of science. In 1996, the 10-day festival included an event called "Science in the Park" with hands-on exhibits and displays, field trips, lectures, classroom presentations, and exhibits. Over 12,000 people were reached by the 1996 festival and over 200 were involved with the planning and implementation of the event.

### **Forest Conservation Days**

*(Pacific Southwest Region)*

For 10 days, fifth-grade students from San Jose, CA, participated in a half-day adventure of learning. Over 130 people volunteered their time to help the students learn about forest resources and their management. Groups of 10 to 15 children were taken on 2 interpretive hikes and then were treated to hands-on displays of forest products, a working steam donkey (used to haul heavy loads uphill), a sawmill, pencil making, and a tree nursery. Over 3,500 children participated in this event.

### **Cullman County Forestry Awareness Week Now**

*(Southern Region - National Forests in Alabama)*

Over 1,000 sixth-grade students had the opportunity to work with a diversity of resource professionals during this collaborative education festival. Travelling through six activity stations, the students learned about soils, forest history, wildlife management, and land use issues. The hands-on activities promote awareness and appreciation for natural resources and encourage students' responsibility to conserve, preserve, and use those resources wisely.

### **Living Archeology Weekend**

*(Southern Region - Daniel Boone National Forest)*

Located at the Gladie Historic Site within the Red River Gorge Area, archeologists and other specialists provided demonstrations and presentations that encouraged visitors to imagine how the Native Americans used the surrounding forest resources. Hands-on events included excavating a prehistoric archeological site, preparing native foods and medicines, manufacturing tools from local rock, hide tanning, and pottery making. A replica of a Native American house made from local forest resources was also part of the event. Over 1,000 students attended.

### **Arbor Day Poster Contest**

*(Northeastern Area - Iowa Department of Natural Resources)*

The Iowa Department of Natural Resources collaborated with the Hawkeye Chapter of the Telephone Pioneers to sponsor a statewide Arbor Day Poster Contest. National Arbor Day Foundation Poster Contest kits were mailed to all known fifth-grade teachers in Iowa. The top three winners were selected from 67 winning school entries. The winners and their families were invited to the Governor's Annual Community Forestry Awards Luncheon held in Des Moines.

### **Carroll County Conservation Field Day**

*(Northeastern Area - University of New Hampshire Cooperative Extension)*

In New Hampshire, 200 seventh-grade students had the opportunity to learn about natural resources in a special 1-day event. Natural resource professionals and teachers developed the curriculum to teach students about topics such as soil profiles, Atlantic Salmon Restoration Program, forest and wildlife management, and forest recreation.

### **Building a Baidarka**

*(Alaska Region - Chugach National Forest)*

Bridging time and cultures, the Glacier Ranger District worked with the Native Alaskan community to implement a unique educational event at the Begich, Boggs Visitor Center in Portage Valley, Alaska. Gregor Welpton, a Native Alaskan boat builder, constructed a traditional baidarka (canoe) in the busy visitor center. The boat construction took approximately 2 weeks and over 30,000 visitors had the opportunity to participate in this special event.

### **Copper River Delta Shorebird Festival**

*(Alaska Region - Chugach National Forest)*

Each year the community of Cordova, AK, joins forces to celebrate the return of spring and the shorebird migration. In its seventh year, the Copper River Shorebird Festival offers a diversity of educational opportunities for visitors and community members. For 5 days, field trips, educational presentations and community events provide opportunities to learn about the value of wetlands and the animals that depend upon them.

### **Other Projects**

Earth Day Conservation Education  
- Southwestern Region

## **STARRED ATTRACTION**

### **Envirothon**

*(Nationwide Participation)*

The Envirothon is a multidisciplinary, environmental problem-solving program culminating in an annual series of competitions. Individual States design and administer competitions and training for schools throughout their State.

A winning team from each State then advances to the national Envirothon, challenging students not only to learn about the needs of their region and issues of local concern, but also to broaden their sense of community.



# NRCE Infrastructure and Materials



Building trails, developing educational signs and exhibits, and purchasing educational equipment and materials are vital contributions to local efforts to provide quality educational opportunities for children and adults. Often, NRCE support for a small investment in materials has made the difference in helping communities reach their educational goals.

## PROJECT

### **Elk City Outdoor Learning Center**

*(Northern Region - Nez Perce National Forest)*

Community members joined forces to help construct a trail and a sheltered classroom to provide an atmosphere for interactive learning. Students in the 7th through 10th grades constructed trail bridges under the supervision of school faculty. Community members pitched in and volunteered their time and energy to construct the sheltered classroom. The learning center will be used by students, the community, and agencies to learn about a diversity of subjects including forest ecosystems, astronomy, and forest management.

### **Nogales Interpretive Implementation**

*(Southwestern Region - Coronado National Forest)*

NRCE funds were used to purchase video equipment, cabinetry, and materials for use in the education portion of the ranger district office. A hands-on display table, stocked with furs, skulls, rocks, and plants, was constructed for the public space. These items serve as a continuing environmental education resource for the surrounding community.

### **Greenhouse Project - Reforestation & Rehabilitation**

*(Pacific Southwest Region - Lassen National Forest)*

Through the creation of field study kits, students within the Fall River Joint Unified School District have the opportunity to gain a sense of environmental stewardship through habitat restoration projects. Each kit contains compasses, air and soil thermometers, sling psychrometers (for measuring humidity), viewing boxes, hand-held microscopes, and field guides. A teacher workshop helped teachers to use the kits and integrate them into existing curriculum.

### **North Fork Interpretive Trail**

*(Pacific Southwest Region - Stanislaus National Forest)*

The Stanislaus National Forest supervised the construction and maintenance of a trail that winds through a 40-year plantation and mature mixed-conifer forests. The trail incorporates in-class lessons with field experiences so that students will have a lasting understanding and impression of their environment. Teachers from the Twain Harte School District taught environmental education units before they visited the site, and followed up the visit with further classes. The field experiences on the trail included topics and activities on forest, wildlife, and aquatic resource management.

### **Stephen F. Austin Experimental Forest Trail**

*(Southern Region - National Forests and Grasslands in Texas)*

A NRCE grant assisted the Stephen F. Austin University, College of Forestry, in completing the construction of two trails. The Management Loop passes through timber management areas and interprets the ongoing practices. It is expected to counteract negative feelings and misunderstandings about forest management practices. The General Nature Trail passes through a variety of woodland habitats and is wheelchair accessible. Interpretation and educational activities emphasize ties between the forest environment and participants' lives as related to sources of lumber for their homes, pulp for paper, chemical products from trees, and also the importance of recreation and rejuvenation found in a forest setting. The trails will be used by students, teachers, and people from the surrounding communities as a learning environment.



## **Iowa State Fair and Other Exhibits**

*(Northeastern Area - Iowa Department of Natural Resources - Forestry Division)*

Through a diversity of displays and exhibits, the Forestry Division brought the message of forest resources and their management to more than 230,000 people in 1996. The State fair exhibit, "A Walk in the Forest," featured a staffed booth with exhibits and handouts.

## **Salmon Incubation System**

*(Alaska Region - Chugach National Forest)*

This NRCE grant funded the purchase of a coldwater salmon incubation system for a local elementary school. As part of a larger salmon education program, the incubation system allowed children to harvest, rear, release, and monitor the growth of coho salmon. Raising salmon in a classroom setting is a valuable tool for teaching students about salmon development and for fostering their appreciation for the need to protect salmon and their habitats.

## **Saltwater Aquarium**

*(Alaska Region - Chugach National Forest)*

To children in Cordova, AK, gumboot chitons, Christmas anemones, and starry flounder are as close as the local ranger district office. Partially funded by a NRCE grant, the 100-gallon coldwater, saltwater aquarium has been an integral component of the community's environmental education efforts. The aquarium is stocked with local Alaska intertidal creatures and features interpretive signs and exhibits.

## **Other Projects**

Birch Creek Outdoor Education (Northern Region)

Columbine & Webb Peak Nature Trail  
(Northern Region)

Ecosystem Signs at Ghost Ranch  
(Southwestern Region)

Travelling Forest Education Displays  
(Southwestern Region)

Monitoring the Effects of Fire on Forbs Kit  
(Southwestern Region)

Patches for Jr. Rangers (Southwestern Region)

Children's Forest Exhibits (Pacific Southwest Region)

Bear Resource Boxes (Alaska Region)

Resource Materials for the Field (Alaska Region)

Crooked Creek Fish Cam (Alaska Region)

## **STARRED ATTRACTION**

### **Far Out Fire Lookout Tower**

*(Pacific Southwest Region -  
Cleveland National Forest)*

Over 500,000 visitors to the Del Mar Fair in California had the opportunity to learn about forest resources and their management through a unique partnership education project. Last year, the Julian Union High School Regional Occupational Program (ROP) constructed a replica fire lookout tower.

The lookout tower was reassembled by Americorps volunteers at the Del Mar Fair in June, 1996. The popular exhibit incorporated interpretive signs about the historical use of lookout towers, and the different types of vegetation and wildlife found on the Cleveland National Forest. The tower was staffed throughout the fair.

The lookout tower is currently being reassembled at the Palomar Ranger District Office in Palomar, CA. Once completed the tower will be a permanent part of the district's education program.

# School Environments

With the support of the NRCE program, teachers throughout the country have set to work to transform their school yards into outdoor classrooms. These living laboratories are a community resource that provide hands-on learning opportunities for young and old alike.

## PROJECT

### **MARSH - Macedonia Aquatic Research Scientific Habitat Environmental Laboratory**

*(Southern Region - Savannah River Forest Station)*

Through the partnership of many community volunteers and numerous State and Federal agencies, a 5-acre wetland was established behind the Macedonia Elementary School. The wetlands area includes walking trails, an environmental instruction area, and an observation deck constructed by Americorps volunteers. In 1996, the school wetland was used as an outdoor learning laboratory for over 600 students.

### **Arroyo Viejo Creek Restoration Project**

*(Pacific Southwest Region)*

The Arroyo Viejo Creek is a degraded creek that runs from the hills of Oakland to San Francisco Bay, CA. Along its winding path it connects a series of Commencement 2000 schools. Coordinated by a dedicated cadre of partners, the effort is a designated restoration project and an environmental outdoor laboratory for students and teachers. Currently, students from the Environmental Resources Academy have adopted the creek and have established six ecosystem monitoring sites. Data from this ongoing project will be used in community partnership GIS programs and will be incorporated into the Oakland Museum Bay Area Creek Guide.

### **Green Gold Conservancy Outdoor Classroom Restoration**

*(Southern Region - Cherokee National Forest)*

A cranberry bog on school property is the focus of this ambitious partnership effort. Through an outdoor classroom, nature trail, cranberry bog, and wildflower viewing area, students have the opportunity to participate in a hands-on conservation learning experience. Parents, students, and Forest Service staff have worked to enhance and restore the cranberry bog and maintain the outdoor classroom.

### **Bungalow's Project Outdoors**

*(Southern Region - Savannah River Forest Station)*

A coalition of community partners established a series of garden plots behind the Bungalow Road Elementary School. The garden plots will enable children to gain natural resource awareness through first-hand experience and will foster responsible behavior and attitudes that promote conservation.



### **Pinecrest School Forest**

*(Northeastern Area - North Central Forest Experiment Station)*

A coalition of partners developed a forested park setting into an educational and community resource. The area serves as a nearby place to observe and interpret natural ecosystems in an urban setting. The ongoing project includes an interpretive nature trail, identification and labeling of trees and shrubs, and a 100-seat amphitheater for outdoor teaching and community use.

### **WILD ACTION Grant Program**

*(Pennsylvania Department of Conservation & Natural Resources)*

Creatures as varied as hummingbirds and butterflies benefitted from the successful WILD ACTION Grant program in Pennsylvania. Established in 1993-1994, the grant program provides support for schools and youth groups interested in improving habitat for wildlife on school or community grounds. During 1996, the Pennsylvania Game Commission received over \$7,000 in grants and contributions for use in the WILD ACTION Grant program. These funds were awarded to schools in the form of small grants. Seventeen schools received grants to implement projects such as planting hummingbird and butterfly gardens, constructing wetlands, and creating bird feeding areas.

### **Pine Cone Path for Learning & Exploring**

*(Southern Region - University of New Hampshire Cooperative Extension)*

A 2,000-foot accessible trail winds through forest and farmland to connect Southwick School with a 35-acre parcel of open land. The main objective of this project was to create an outdoor educational classroom that would be a place to study not only natural resources, but also all the subjects covered by grades one through five. Students, teachers, and community members were fully involved in the planning and construction of the trail. From naming the trail to surveying property lines, and computing earthwork needs, students were involved in all aspects of the trail.

## **STARRED ATTRACTION**

### **Adopt-a-Stream & Trout in the Classroom Programs**

*(Pacific Southwest Region - Tahoe National Forest)*

Hands-on lectures, rearing trout eggs, and field trips were all part of the classroom experience for students in Foresthill, Truckee, and Sierraville. These classes closely followed the Trout in a Classroom curriculum, which consisted of studying trout, rearing eggs to fry, and releasing fry into "adopted" streams. The students also sampled water quality and aquatic insects, and restored sections of the stream by building bank stabilization structures and planting riparian vegetation. Many of the students were also active in Truckee River Day, a community event organized to increase awareness of the river to help keep it clean.

# Teacher Training



Teaching teachers is a vital role of the NRCE program.

Throughout the country, resource professionals have organized and sponsored a diversity of teacher training opportunities.

From 1-day workshops to week-long camps, teachers are given the opportunity to gain the knowledge and develop the skills to implement their own conservation education efforts. The NRCE message is amplified many times through these teacher training programs.

## PROJECT

### **FREEFLOW Teacher Workshop**

*(Northern Region - Flathead National Forest)*

Over 20 schools in Flathead County, MT, participated in a coordinated stream monitoring program for kindergarten through 12th grades. This project uses water quality monitoring as a means of encouraging students to apply science and math skills to a real-life issue of immediate and long-term interest to them and their community. Thirty-five teachers attended the Big Creek Outdoor Education Center for a 2-day workshop focused on the use of water monitoring kits and the identification of aquatic insects.

### **Songbird Blues Teacher Workshop**

*(Northern Region - Lolo National Forest)*

Teaching children about migratory birds is the objective behind the successful Songbird Blues Curriculum Box. Used throughout the Nation, the box continues to be an effective and valued part of many K-6 classrooms. In partnership with the Montana Department of Fish and Game, this project sponsored workshops in six Montana cities where the boxes are distributed, and reached over 160 Montana teachers.

### **“The Environment” : A Workshop for Teachers**

*(Southwestern Region - New Mexico Energy, Minerals and Natural Resources Department, Forestry Division)*

“The Environment” was a 6-day workshop for New Mexico educators that provided opportunities to learn about natural resource issues affecting the State. Throughout the workshop, teachers interacted with natural resource experts in the fields of forestry, wildlife, fire, ecology, and Native American issues. Twenty-five teachers attended the workshop and traveled on field trips to Santa Clara Pueblo, Carson National Forest, and private land.

### **Forestry Institute for Teachers**

*(Pacific Southwest Region - Six Rivers, Shasta-Trinity, and Plumas National Forests)*

Three national forests in California have implemented unique teacher workshops designed to provide California public school teachers (K-12) with the information, motivation, and tools to effectively teach curricula on forest ecology and forest resource management. These week-long workshops bring teachers and resource professionals together to explore ways to use curricula to teach about forest ecosystems. The workshops are a combination of classroom presentations and field trips led by instructors from the timber industry, Federal and State agencies, and the university system. In 1996, the Forestry Institute for Teachers reached over 140 California teachers.

### **Close Encounters of a Forest Kind**

*(Louisiana Department of Agriculture & Forestry)*

Through a partnership of the State of Louisiana, the International Paper Company Foundation, and the USDA Forest Service, 16 high school and middle school teachers spent 6 days at Alexander State Forest studying forest ecosystems and learning about forest management techniques. The teachers conducted field studies, participated in simulated experiences, toured sites of interest, and received instructional materials for their classrooms.

### **Florida’s Forests and Environmental Education**

*(Florida Division of Forestry)*

Nineteen teachers attended a 1-week workshop held at the Withlacoochee State Forest in Florida. The teachers focused on developing forestry lesson plans and learning about the benefits of forests. The teacher training was followed by 5 weeks of residential camp for children. The teachers used their new-found skills by working at the camp during 1 of the 5 weeks.



## Teacher Conservation Workshop

*(Southern Region - National Forests in Mississippi)*

For 34 years the Forestry Association of Mississippi has sponsored an intensive week-long teacher training workshop focused on forests and forest management. Through extensive field trips to forests and forest industry sites, 23 teachers had the opportunity to learn about the value of our natural resources and how to use them to teach basic learning skills in the classroom. The teacher's workshop is taught by resource professionals from private forest industry, and State and Federal land management agencies and is accredited for 3 hours of advanced study credits.

## Statewide Conference on Natural Resource Conservation Education

*(Connecticut Department of Environmental Protection)*

A coalition of private and public partners joined forces to organize and conduct a statewide conference on NRCE. This conference brought together professional resource managers and educators from across the State to discuss current resource education materials and methods. Complementing a strong State program, the conference was the first phase in a multi-year effort.

## Other Projects

Teacher Workshops in West Virginia  
(Northeastern Area)

NRCE Program for Washington, D.C.  
(Northeastern Area)

Natural Resource Network - New Hampshire  
(Northeastern Area)

Southeast Alaska Visitor Center Teacher Boxes & Kits  
(Alaska Region)

## STARRED ATTRACTION

### "How Do We Make Fish as Popular as Dinosaurs?" Symposium

*(Northern Region - Flathead National Forest)*

Teachers, natural resource professionals, and media contacts came together during this innovative symposium to learn ways to share natural resource success stories with the public. Co-sponsored by Montana State University, this symposium examined the difficulties resource professionals face in getting messages across through the media.

Over 225 people developed skills in writing, interpretive displays, and classroom presentations. Participants also had the opportunity to learn about angler education techniques and angler ethics. Coordinated by a coalition of fisheries biologists and interpretive specialists from State and Federal agencies, this successful project has the potential for reaching over 11,000 children. The State of Montana has just started a family fishing initiative using ideas generated from this symposium.





# Education Camps



Wandering through a ponderosa pine forest, gazing at the star-speckled night, floating down the Salmon River—perhaps no other education project can surpass the effectiveness of education camps. The NRCE program provides support for a diversity of camping experiences across the country. These camps not only offer a unique opportunity to provide quality educational experiences, but also foster a special connection between the participant and the resource.

## PROJECTS

### **Sanders County Schools Sixth-Grade Outdoor Education Camp**

*(Northern Region - Lolo National Forest)*

For 2 days, sixth-grade students of the Thompson Falls School had the opportunity to learn about natural resource issues at two camps sponsored by the Bend Ranger District. Rotating through various learning stations, students learned about soil, water, wildlife, and timber management. The camp was directed by the county extension service and instructors were provided by the Natural Resources Conservation Service; Montana Department of Fish, Wildlife & Parks; Forest Service; and the Plum Creek Timber Company.

### **National Forest Elderhostel**

*(Northern Region - Beaverhead-Deerlodge National Forest)*

“This week really broadened my view of the all-important jobs of the Forest Service. I think that it would be a good idea to have this course taught in other national forests around the country.” Such were the responses of participants in the elderhostel sponsored by the Beaverhead-Deerlodge National Forest. For over 5 days, a team of Forest Service employees collaborated with the Western Montana

College to sponsor the first National Forest Elderhostel. Intended to increase understanding and appreciation of natural resources, national forests, and the Forest Service, this successful program reached 27 enthusiastic elders.

### **YMCA Environmental Education Camp**

*(Northern Region - Lolo National Forest)*

Working with the YMCA's summer programs, Forest Service staff incorporated 1-hour natural resource education activities for over 230 children. The collaborative program was so successful that the YMCA is planning in 1997 to offer 1-week day camps focused exclusively on environmental education and located in natural settings.

### **Camp Colton/Project LIFE**

*(Southwestern Region - Coconino National Forest)*

Project LIFE is a program of the Flagstaff Unified School District that gives every sixth-grader the opportunity to spend a week at Camp Colton, a school district-owned facility, surrounded by the Coconino National Forest. Over 1,000 students studied the wildlife, plant communities, forest and water resources, geology, and history of the Flagstaff area. In addition to providing financial support, Forest Service staff serve as guest instructors at the camp.

### **New Mexico Forestry Camp**

*(Southwestern Region - Cibola National Forest)*

Forestry Camp is a 5-day workshop for New Mexico's youth, located at the Rancho del Chaparral in the Jemez Mountains near Cuba, NM. Among ponderosa pines and mixed conifer forests, over 60 students had the opportunity to learn how resource professionals measure trees, track animals, fight fires, study ruins, and evaluate range conditions.

### **High Sierra Resources Workshop**

*(Intermountain Region - Toiyabe National Forest)*

The theme “A River Runs Through It” carried high school youth through an unforgettable 8-day residential experience. Now in its fourth year, this unique and challenging workshop literally followed the Carson River through the State capital of Carson City upstream into the heart of the Carson-Iceberg Wilderness. Along the journey, students developed critical thinking skills, worked with resource professionals in the Toiyabe National Forest, built lasting friendships, and brought home an intimate attachment to this unique Sierra Mountain ecosystem.



## **Los Padres National Forest Natural Resources School**

*(Pacific Southwest Region - Los Padres National Forest)*

The Natural Resources School started 4 years ago as a Region 5 pilot project and has continued to be a great success. It is a partnership education program that focuses on a special group of students at an age when natural resource values are shaped and formed. Working with the Santa Barbara County Superintendent of Schools, the school was initiated with a recruitment focus on 13- and 14-year-old, highly motivated, science-oriented, minority and handicapped youth. For 14 days, these students participate in an outdoor curriculum presented by the teacher/naturalists and complemented by resource professionals from a diversity of agencies. Students learn by doing and participating. This successful program has become a model for education efforts throughout the Los Padres National Forest.

## **Sequoia SSTAR - Students Striving for Achievement and Responsibility**

*(Pacific Southwest Region - Sequoia National Forest)*

This year-round program targets 14- to 17-year-old, at-risk students throughout Tulare County. The Sequoia SSTAR program's mission is to encourage these youth to stay in school while learning about conservation on the Sequoia National Forest. This successful program is supported by a diverse coalition of partners from private industry, service clubs, schools, nonprofit organizations, and government agencies. Graduates from the program often go on to graduate school and return to work for the Forest Service.

## **Youth Conservation Corps-Hawaii**

*(Hawaii Department of Land & Natural Resources)*

Hawaii's Youth Conservation Corps program provided hands-on learning opportunities for 23 students. Working with various departments of the Department of Land and Natural Resources, the students worked on service projects such as clearing wetlands, building

trails, picking seed for native plant propagation, and working on an aquaculture farm. Students were also introduced to aspects of Hawaiian culture, and the links between natural and cultural history.

## **Salmon River Expedition - Wolfree Inc.**

*(Pacific Northwest Research Station)*

Following the course of the Salmon River, small groups of high school students participated in hands-on ecological investigations. Throughout the 1-week camp, students examined changes in key characteristics of the ecology of the watershed. Hands-on activities included the identification of species in the forest ecosystem, basic sampling techniques, and analysis and presentation of data. In partnership with Wolfree, Inc., a nonprofit organization that develops and implements educational programs in the ecological sciences, the Pacific Northwest Research Station partially funded the 1996 Salmon River Expedition.

## **FFA Forestry Training Camp**

*(Florida Division of Forestry)*

Through two, 1-week camps, FFA high school students learned about forest management and forestry practices. Rangers and foresters from the Florida Division of Forestry helped students learn about timber cruising, insect and disease control, and prescribed burning.

## **Resources and People Career Camp (RAP Camp)**

*(Pacific Northwest and Pacific Southwest Regions - Winema and Modoc National Forests)*

The Resources and People Career Camp was held at Camp Cottonwood near Bly, OR, and at Oregon Institute of Technology in Klamath Falls, OR. The focus of the camp was to give high school students and classroom teachers an understanding of natural environments and their value to society.

## **STARRED ATTRACTION**

### **Alaska InterTribal Youth Practicum**

*(Alaska Region)*

A coalition of partners joined forces to plan and implement an innovative learning experience for 20 Alaskan students. During the 9 days of the Practicum, students learn about different tribal governmental organizations and resource issues in Alaska. Students are assigned to groups to simulate tribal governments. Long-term land use planning, environmentally sound natural resource development, and preservation of cultural resources are emphasized.

Partnerships were formed with other Federal agencies, the State university, and the Kenaitze Tribe. These partners were responsible for developing all materials, contacting speakers, arranging field trips, and providing cultural experiences. The Practicum was held on the Kenai Peninsula, and students from throughout Alaska participated.

# Teaching NRCE

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Throughout the country, resource professionals are “out in the field” with children sharing their knowledge and love of the natural and cultural resources of our public lands. Supported by the NRCE program, these efforts bring the natural world to students through the use of hands-on activities and accurate conservation education.

## **Gooseberry Third-Grade Environmental Education Program** *(Intermountain Region - Fishlake National Forest)*

All third-graders in Piute, Wayne, and Sevier counties in Utah attend a 24-hour environmental education program. Held at the Gooseberry Administrative Site, the students have the opportunity to work with resource professionals from Utah State Parks and Recreation, Bureau of Land Management, National Park Service, Natural Resources Conservation Service, Utah Division of Wildlife Resources, and the Forest Service. From noon on the first day to noon on the second, students learn about conservation concepts through hands-on activities and crafts.

## **Natural Resource Conservation Education in American Samoa** *(Pacific Southwest Region - American Samoa Community College Land Grant Program Forestry Section)*

A coalition of partners worked together to offer a wide range of conservation education activities for children throughout American Samoa. The project was implemented through an environmental intergovernmental group called Le-Tausagi. This group is formed by participants from the American Samoa Environmental Protection Agency, Economic Development Planning Office, Fagatel Bay Marine Sanctuary, Marine and Wildlife Resources, and the American Samoa Community Land Grant Program Forestry Section. Through tree planting, field trips, reef walks, and forest hikes, over 1,200 Samoans had the opportunity to learn about the natural resources of American Samoa and their management.

## **Watershed Awareness in Palau**

*(Pacific Southwest Region - Division of Agriculture - Palau)*

Tree planting, awareness programs, and lectures were all part of the Division of Agriculture’s natural resource conservation education program. This program has paved the way for the Forest Service and the local communities and leaders to work more closely on forestry issues. Throughout the islands, communities have initiated tree planting projects in their area and others have asked the Forest Service to assist them in their watershed.

## **Sixth-Grade Outdoor Education**

*(Pacific Southwest Region - Modoc National Forest)*

For 1 day, sixth-grade students from the Modoc Middle School investigated decaying tree stumps, hiked wilderness trails, and explored the natural resources of the Modoc National Forest and National Wildlife Refuge. Forest Service staff taught a series of hands-on activities to promote awareness and understanding of natural resources.

## **4-H RES-Q (4-H Responsible Environmental Stewardship Quest)**

*(Southern Region - Ouachita National Forest)*

Over 3,000 students traveled to the Environmental Education Center at the C. A. Vines 4-H Center in Ferndale, AR, to participate in learning experiences that reinforced grade-level-appropriate concepts. Through hands-on activities, students learned about forest ecology, entomology, bats, snakes, reptiles, and nighttime nature. Many of the participants were inner-city students who rarely had the opportunity to experience the natural world. Teachers and students also made temporary nesting boxes from waxed, recycled cardboard and placed them near their homes or schools. The nest box program allowed students to learn about recycling, habitats, predator/prey relationships, and the effect of humans on the environment.

## **Talladega Open Air Classroom**

*(Southern Region - National Forests in Alabama)*

A 2-mile hike on the Lakeshore Trail at Lake Chinnabee in the Talladega National Forest provided the setting for a successful environmental education program. In 1996, over 700 students from the Talladega school system worked with resource professionals to learn about timber and wildlife management, aquatic ecology, and litter prevention. All learning stations were oriented toward the human uses of natural resources and the individual responsibilities for conservation of those resources.



## Nature Programs for Schools in Vermont State Parks

*(Vermont Department of Forests, Parks and Recreation)*

During September 1996, State parks throughout Vermont invited school children to visit their site for a special day of fun and learning. Naturalists presented programs on water and wetlands, historic resources, geology, and forests and wildlife. Workshops included nature walks, discussions, and hands-on activities. Each park tailored its program to reflect its unique resources. Over 4,000 school children attended free programs in 11 different State parks.

## Forging a Forest Partnership in Philadelphia

*(Pennsylvania State University, School of Forest Resources)*

Pennsylvania State University Extension led a collaborative project to provide quality forestry-based education for minority youth in the Philadelphia area. Supported by a wide variety of public and private partners, this multi-year project focuses on establishing interpretive trails at the Cobb's Creek Environmental Center and the French Creek State Park Forest Stewardship Demonstration. These trails were constructed by area youth and community leaders. Students also participated in field trips to both urban and rural forest areas and visited Pennsylvania State University to learn about careers in natural resources.

## Cordova Discovery Room

*(Alaska Region - Chugach National Forest)*

From dissecting a rotting log to creating popcorn-ball conglomerate "rocks," the elementary school students of Cordova, AK, participate in a hands-on exploration of their natural environment. Established in 1992, this continuing education program emphasizes important

ecological principles through the use of local examples. This successful program is a collaborative effort between the Prince William Sound Science Center and the Forest Service, and is supported by grants and corporate donations. Each year the program provides over 3,000 hours of educational contact for area children.

## Wrangell Ranger District Conservation Education Program

*(Alaska Region - Tongass National Forest)*

Throughout the year, Forest Service staff of the Wrangell Ranger District presented a diversity of educational activities for residents and visitors. Located on an island in the heart of the Tongass National Forest, the district's NRCE programs focus on the natural and cultural resources of the temperate rain forest. Ranging from workshops on interpretive "puppetry" to programs on bats, animal tracks, and forest ecology, these presentations reached over 1,500 people in 1996. The District's conservation education programs serve audiences from preschool to adult.

## Other Projects

Conecuh Outdoor Classroom (Southern Region)

Trees & People Education Program (Southern Region)

NRCE Program in Massachusetts (Northeastern Area)

Coordinated Forestry Outreach in Maryland (Northeastern Area)

Delaware NRCE Program (Northeastern Area)

New Jersey NRCE Program (Northeastern Area)

Grey Towers NRCE Program (Northeastern Area)

Cordova Jr. Rangers (Alaska Region)

## STARRED ATTRACTION

### Pattyanne Corsentino

*(Rocky Mountain Region)*

For the past 4 years, a Denver Public School teacher has had a very different work environment. Pattyanne Corsentino's emigration from the classroom to the Rocky Mountain Regional Office began when she received the National Conservation Teacher of the Year Award in 1992. Under an inter-governmental placement from the EPA, Pattyanne began a 1-year program of developing Tree Trunks, teaching workshops for teachers and Forest Service employees, and working with NRCE coordinators.

During her tenure with the Forest Service, Pattyanne has created a variety of educational kits including the Tree Trunk, Sod Boxes, Rock Boxes, and Recycling Kits. She has traveled throughout the country speaking at workshops and conferences. She has also been instrumental in the development of a multimillion dollar environmental education center at Bluff Lake.

*Pattyanne returned to the classroom in 1996/97. Her contributions to the Forest Service's NRCE program are sure to be long-lasting.*

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